TSS class propulsion engine test requires an additional mode for descent. The mass emission for the modes are combined to yield the reported values.

(d) When an engine is tested for exhaust emissions on an engine dynamometer or test stand, the complete engine (with all accessories which might reasonably be expected to influence emissions to the atmosphere installed and functioning), shall be used if not otherwise prohibited by § 34.62(a)(2). Use of service air bleed and shaft power extraction to power auxiliary, gearbox-mounted components required to drive aircraft systems is not permitted.

(e) Other gaseous emissions measurement systems may be used if shown to yield equivalent results and if approved in advance by the Administrator or the Administrator of the EPA.

§ 34.61 Turbine fuel specifications.

For exhaust emission testing, fuel meeting the specifications listed below shall be used. Additives used for the purpose of smoke suppression (such as organometallic compounds) shall not be present.

SPECIFICATION FOR FUEL TO BE USED IN AIRCRAFT TURBINE ENGINE EMISSION TESTING

Property	Allowable range of values
Specific Gravity at 15°C	0.78–0.82.
Distillation Temperature, °C	
10% Boiling Point	160–201.
Final Boiling Point	240–285.
Net Heat of Combustion, kj/Kg	42,860–43,500.
Aromatics, Volume %	15–20.
Naphthalenes, Volume %	1.0–3.0.
Smoke Point, mm	20–28.
Hydrogen, Mass %	13.4–14.0.
Sulphur, Mass %	less than 0.3%.
Kinematic Viscosity at—20° C, mm^2/sec.	4.0–6.5.

[Doc. No. 25613, 55 FR 32861, Aug. 10, 1990; 55 FR 37287, Sept. 10, 1990]

§ 34.62 Test procedure (propulsion engines).

(a)(1) The engine shall be tested in each of the following engine operating modes which simulate aircraft operation to determine its mass emission rates. The actual power setting, when corrected to standard day conditions, should correspond to the following percentages of rated output. Analytical correction for variations from reference day conditions and minor variations in actual power setting should be specified and/or approved by the Administrator:

Mode	Class		
	TP	TF, T3, T8	TSS
Taxi/idle	(*)	(*)	(*)
Takeoff	100	100	100
Climbout	90	85	65
Descent	NA	NA	15
Approach	30	30	34

*See paragraph (a) of this section.

(2) The taxi/idle operating modes shall be carried out at a power setting of 7 percent rated thrust unless the Administrator determines that the unique characteristics of an engine model undergoing certification testing at 7 percent would result in substantially different HC emissions than if the engine model were tested at the manufacturers' recommended idle power setting. In such cases the Administrator shall specify an alternative test condition.

(3) The times in mode (TIM) shall be as specified below:

Mode	Class		
	TP	TF, T3, T8	TSS
Taxi/idle	26.0 Min.	26.0 Min.	26.0 Min.
Takeoff	0.5	0.7	1.2
Climbout	2.5	2.2	2.0
Descent	N/A	N/A	1.2
Approach	4.5	4.0	2.3

(b) Emissions testing shall be conducted on warmed-up engines which have achieved a steady operating temperature.

[Doc. No. 25613, 55 FR 32861, Aug. 10, 1990; 55 FR 37287, Sept. 10, 1990]

§ 34.63 [Reserved]

§ 34.64 Sampling and analytical procedures for measuring gaseous exhaust emissions.

The system and procedures for sampling and measurement of gaseous emissions shall be done in accordance with Appendices 3 and 5 to ICAO Annex 16, Environmental Protection, Volume II—Aircraft Engine Emissions, First Edition, June 1981, effective February 18, 1982. This incorporation by reference was approved by the Director of the FEDERAL REGISTER in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51.